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TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
0830.061A

In Re Application Of: Capano et al.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/977,067	10/12/2001	Pope, Daryl C.	23405	2632	1830

Invention: METHODS AND APPARATUS FOR MONITORING SEWER SYSTEM OPERATION

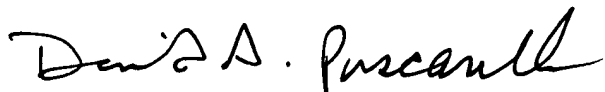
COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on March 21, 2005

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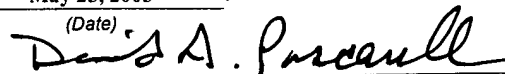
Dated: May 25, 2005

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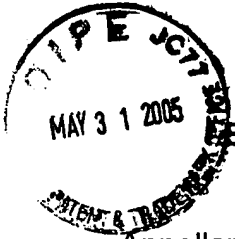


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Capano et al.

Group Art Unit: 2632

Serial No.: 09/977,067

Examiner: Pope, Daryl C.

Filed: October 12, 2001

Appeal No.:

Title: METHODS AND APPARATUS FOR MONITORING SEWER SYSTEM
OPERATION

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Brief of Appellants

Dear Sir:

This is an appeal from a final rejection, mailed October 19, 2004, rejecting claims 1-25 of the above-identified application. This Brief is accompanied by a check in the amount of \$500 for the requisite fee set forth in 37 C.F.R. §1.11(c). The Appeal Brief is due within two months from the date the Notice of Appeal was received at the U.S.

Patent and Trademark Office. Since a review of the U.S. Patent and Trademark Office's Patent Application Information Retrieval (PAIR) system indicates that the Notice of Appeal was received on March 25, 2005, and stamped with the date of March 25, 2005, this Brief is due on or before May 25, 2005, and thus, this Appeal Brief is timely filed.

Appellants' brief is being filed after the effective date of the final BPAI Rules, September 13, 2004, and, therefore, the format and content of appellants' brief is in compliance with the requirements set forth in 37 CFR §41.37(c). If appellants' brief does not comply with the requirements set forth in 37 CFR §41.37(c), appellants request notification of the reasons for noncompliance and the opportunity to file an amended brief pursuant to 37 CFR §41.37(d).

Real Party in Interest

This application is assigned to Environment One Corporation by virtue of an assignment executed by the joint inventors January 14, 2002 and recorded with the U.S. Patent and Trademark Office at reel 012577, frame 0255, on February 12, 2002. Therefore, the real party in interest is Environment One Corporation.

Related Appeals and Interferences

To the knowledge of the appellants, appellants' undersigned legal representative, and the assignee, there are no other appeals or interferences, which will directly affect or be directly affected by or have a bearing on the Board's decision in the instant appeal.

Status of Claims

This patent application was filed on October 12, 2001, with the U.S. Patent and Trademark Office and claimed priority to U.S. Provisional Patent Application 60/240,568 filed on October 13, 2000. As filed, the application included twenty-one (21) claims, of which five (5) were independent claims (i.e., claims 1, 7, 10, 14, and 18).

In an initial Office Action, dated September 4, 2002, claims 14-17 were withdrawn from consideration (although no reason was stated in the Office Action). Claims 1-13 and 18-21 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Joao (U.S. Patent No. 5,917,405). In appellants' response dated December 23, 2002, claims 1, 2, 5-7, and 11 were amended and a new claim 22 was added.

In a second and final Office Action dated March 12, 2003, claims 14-17 were reinstated, the earlier rejection was withdrawn, and claims 1-22 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by Wilson et al. (U.S. Patent No. 5,400,246). In appellants' response after final, dated June 5, 2003, no claims were amended.

In a telephone interview on September 11, 2003, the Examiner indicated that due to the incompleteness of the previous Office Actions, the Examiner would issue a complete non-final Office Action and withdraw the finality of the last Office Action.

In a third, non-final Office Action, dated February 27, 2004, the earlier rejection was withdrawn, and claims 1-13 and 18-22 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Fewel (U.S. Patent No. 6,377,171) in view of Cornick (U.S. Patent No. 6,261,446), and claims 14-17 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Cornick (U.S. Patent No. 6,261,446). In appellants' response dated, June 28, 2004, claims 7 and 10 were amended and new claims 23-25 were added.

In a fourth, final Office Action, dated October 19, 2004, claims 1-13 and 18-25 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Fewel (U.S. Patent No. 6,377,171) in view of Cornick (U.S. Patent No. 6,261,446), and claims 14-17 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Cornick (U.S. Patent No. 6,261,446).

A Notice of Appeal to the Board of Patent Appeals and Interferences was mailed on March 21, 2005, and received at the U.S. Patent and Trademark Office on March 25, 2005.

The status of the pending claims is therefore as follows:

Claims allowed – none;
Claims objected to – none;
Claims rejected – 1-25; and
Claims canceled – none.

Appellants are appealing the rejections of claims 1-25.

Status of Amendments

Appellants proffered no amendments responsive to the final Office Action dated October 19, 2004. The claims as set out in the Appendix include all prior entered claim amendments.

Summary of Claimed Subject Matter

The various aspects of appellants' invention include a method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations (independent claim 1), an alarm panel for a grinder pump station having a grinder pump (independent claim 7), a modular alarm panel for a grinder pump station having a grinder pump (independent claim 10), method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle (independent claim 14), and a method for transmitting information over a high voltage alternating current line (independent claim 18).

In the first aspect of the invention, appellants claim a method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations (independent claim 1) which includes obtaining data regarding the plurality of

grinder pump stations at the first locations (see, e.g., FIGS. 1, 5, and 6, paragraph [0036], lines 1-5, and paragraph [0037]), transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations (see, e.g., FIGS. 5 and 6, and paragraph [0036], lines 5-12), and at least one of a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations (see, e.g., FIGS. 8 and 9, paragraph [0035], and paragraph [0036], lines 15-18).

In the second aspect of the invention, appellants claim an alarm panel for a grinder pump station having a grinder pump (independent claim 7) which includes a processor for monitoring data regarding the grinder pump station (see, e.g., FIG. 2 and paragraph [0025]), a modem board connectable to the processor (see, e.g., FIG. 2 and paragraph [0025]), and at least one of the processor and the modem board comprising an override to allow use of a telephone by a homeowner over use of a telephone line by the modem board during transmission of the data regarding the grinder pump station from the processor to a central computing unit (see, e.g., FIG. 2 and paragraph [0031]).

In the third aspect of the invention, appellants claim a modular alarm panel for a grinder pump station having a grinder pump (independent claim 10) which includes a processor for monitoring the grinder pump station (see, e.g., FIGS. 1 and 2, and paragraph [0027]), and wherein the processor is connectable to a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle (see, e.g., FIGS. 1 and 2, and paragraph [0027]).

In the fourth aspect of the invention, appellants claim a method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle (independent claim 14) with includes permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube (see, e.g., FIGS. 1 and 4, and paragraph [0034], lines 1-8).

In the fifth aspect of the invention, appellants claim a method for transmitting information over a high voltage alternating current line (independent claim 18) which includes receiving data at a first location, modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information, detecting the series of pulses in the high voltage line at a second location different from the first location, and determining the data at a second location based on the series of pulses (see, e.g., FIGS. 10 and 11, and paragraphs [0047] to [0050]).

Grounds of Rejection to Be Reviewed On Appeal

1. Whether claims 1-13 and 18-25 were rendered obvious to one of ordinary skill in the art by Fewel (U.S. Patent No. 6,377,171) in view of Cornick (U.S. Patent No. 6,261,446), and therefore, properly rejected under 35 U.S.C. §103(a).
2. Whether claims 14-17 were rendered obvious to one of ordinary skill in the art by Cornick, and therefore, properly rejected under 35 U.S.C. §103(a).

Argument

Rejection under 35 U.S.C. §103(a) Over Fewel (U.S. Patent No. 6,377,171) and Cornick (U.S. Patent No. 6,261,446)

Claims 1-3, 5, 6, and 22

Reversal of the rejection of claims 1-3, 5, 6, and 22 as obvious over Fewel and Cornick is respectfully requested.

Initially, the first aspect of appellants' invention is directed to methods for remotely monitoring for repair a plurality of grinder pump stations. A grinder pump station typically includes a container having a grinder mechanism for cutting or grinding solids or semisolid matter, and a pump for transferring the resulting ground particulate effluent from the container through a small diameter pipe without clogging to, for example, a pipe connected to a sewage treatment facility.

As an example of this aspect, appellants recite in independent claim 1, a method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations which includes "obtaining data regarding the plurality of grinder pump stations at the first locations", "transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations", and "at least one of a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations."

As explained in greater detail below, when appellants' claimed invention is considered as a whole, and when the applied references are considered in their entirety, the combination of the applied references fails to teach or suggest appellants' claimed invention.

As a whole, appellants' invention is not merely the obtaining and transfer of any data to a central computing unit. Instead, appellants' claimed invention specifically includes obtaining and transferring of at least one of a) "data regarding maintenance warnings for the plurality of grinder pump stations", and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising "determining," at the central computing unit, "maintenance warnings for the plurality of grinder pump stations."

In appellants' claimed invention, by comparing changes in the operating parameters over time and/or comparing the operating parameter against predetermined criteria, an alarm condition or maintenance warning requiring repair and/or warning of potential service requirements can be addressed in advance of failure. This technique may provide a faster response time for repair and reduce maintenance costs by allowing repair prior to the occurrence of increased or major problems or a breakdown of a plurality of grinder pump stations or components thereof.

Fewel, as a whole, discloses a monitoring system for monitoring the condition of a single filter vessel 14 having a plurality of filters 16 for filtering a gas or a liquid. Using various sensors, the permeability of the filter is monitored on a continuous basis. A significant increase in permeability, decrease in permeability or rate of change of permeability can lead to an indication of filter failure, such as rupture, leakage, loading and unloading. The system can be monitored by a computer and monitored from a remote location through telephone lines and Internet computer systems.

Cornick, as a whole, discloses a single preloader system including a tank 10 having a first chamber and a second chamber for improving the separation of sewage containing wastewater. The first chamber includes a grinder pump for grinding solids that descend toward the bottom of the first chamber with the resulting slurry being pumped through a grinder conduit 32 to a discharge pipe. The first chamber is also connected to a second chamber via a separation pipe 22 which also allows a flow of fluid to bypass the grinder pump, and instead, directly flow to the second chamber. The second chamber includes a pipe 24 which connects to the discharge pipe. Oleaginous materials that rise to the surface of the sewage in the first chamber are periodically removed. Thus, Cornick discloses a sewage separating system and does not disclose a grinder pump station wherein the sewage that is received in, for example the first chamber having the grinder pump, is completely processed and pumped by the grinder pump to the sewage discharge pipe.

In the Office Action, dated February 27, 2004, it is stated on pages 2 and 3, that the claimed subject matter of claim 1 is allegedly met by Fewel as including:

1) the claimed pump station is met by the filter vessel (14) including filter (16);

2) the claimed obtaining data regarding the pump station is met by the meters and transmitters (20, 32, 39) obtaining operating data at the vessel (see: column 2, lines 7-12);

3) the claimed transferring the data from the first locations via a communications network to a central computing unit at a second location is met by the filter (14) which is located at a first location transferring data to a computer system (24) which is remotely located from the filter vessel (see: column 1, lines 59 et seq; column 2, lines 1-16); and

4) the claimed data comprising data regarding maintenance warnings and data comprising data regarding the operation of the station and determining at the central computing unit maintenance warnings for the station is met by the computer system (24) containing programmed algorithms which determine alarm conditions such as rupture or leakage (see: column 2, lines 46 et seq).

The Office Action, dated February 27, 2004, further notes on page 3 that:

Fewel does not show:

1) the claimed system for monitoring a plurality of grinder pump stations.

Although not the system of Fewel is utilized for monitoring filter stations, it is obvious that grinder pump stations are forms of filter stations. Use of systems which monitor grinder pump stations are well known in the art.

In addressing the above characterizations of Fewel, it is important to note that independent claim 1 is a "method" claim "for remotely monitoring for repair a plurality of grinder pump stations" (i.e., not an apparatus claim for a grinder pump station having various features). It is also important to note that the obtaining and transferring of "data", as recited in independent claim 1, is not any data but instead, "data regarding maintenance warnings for the plurality of grinder pump stations", and data regarding operation of the plurality of grinder pump stations and the step of "determining, at the central computing unit maintenance warning for the plurality of grinder pump stations." With these points in mind, the above characterization of Fewel is addressed as follows.

First, it is respectfully submitted that the claimed grinder pump station is not met by the filter vessel including filter of Fewel. In particular, a filter vessel including filter and a grinder pump station operate on different and opposite principals. More particularly, the system disclosed in Fewel is a passive system. A gas or a fluid simply

passes through the filters before being discharged and a portion of the material in the gas or fluid is separated from the remaining gas or fluid and retained in the filters. A grinder pump station, on the other hand, is an active system and is often used in low pressure sewage systems for pumping sewage and includes a grinder mechanism for cutting or grinding solids or semisolid matter in the material and a pump for pumping the resulting particulate effluent. Thus, in a grinder pump station, there is no separation of material. Accordingly, the claimed grinder pump station is not met by the filter vessel 14 including filters 16 of Fewel, i.e., a grinder pump station is not a form of a filter station.

Second, it is respectfully submitted that the claimed "obtaining data regarding the pump station" is not met by the meters and transmitters (20, 32, 39) obtaining operating data at the vessel" of Fewel. In particular, appellants instead claim in independent claim 1, "obtaining data regarding a plurality of grinder pump stations." Fewel discloses only one filter vessel, and neither a grinder pump nor a plurality of grinder pump stations. Furthermore, as explained below, the "data" as recited in independent claim 1 is not any data but instead "data regarding the maintenance warnings of the plurality of grinder pump stations" and "data regarding the operation of the plurality of grinder pump stations" and "determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations." Accordingly, the claimed obtaining data is not met by Fewel.

Third, it is respectfully submitted that the claimed "transferring the data from the first locations via a communications network to a central computing unit at a second location" is not met "by the filter (14) which is located at a first location transferring data to a computer system (24) which is remotely located from the filter vessel." As noted above, Fewel neither discloses a grinder pump nor a plurality of grinder pumps. Also, filter vessel 14 (i.e., a container) does not transfer data. Furthermore, as explained below, the "data" as recited in independent claim 1 is not any data but instead "data regarding maintenance warnings of the plurality of grinder pump stations" and "data regarding the operation of the plurality of grinder pump stations" and "determining, at

the central computing unit maintenance warnings for the plurality of grinder pump stations." Accordingly, the claimed transferring the data is not met by Fewel.

Fourth, it is respectfully submitted that the claimed "data comprising data regarding maintenance warnings and data regarding the operation of station and determining at the central computing unit maintenance warnings for the stations" is not met " by the computer system (24) containing programmed algorithms which determine alarm conditions such as rupture or leakage." As noted above, Fewel discloses a single filter system and neither a grinder pump station nor a plurality of grinder pump stations. Accordingly, Fewel does not disclose "a) data regarding maintenance warnings" for the "plurality of grinder pump stations", or "b) wherein the data comprises data regarding the "operation of the plurality of grinder pump stations" and further comprising "determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations" as recited in independent claim 1.

Also in the Office Action dated February 27, 2004, on page 3, it was alleged that:

In related art, Cornick teaches monitoring of the operation of grinder pump stations (10), and as well transmission of data concerning the operation of the stations to a CPU (90) (see: column 8, lines 66 et seq; column 9, lines 1-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute grinder pump-stations (10) of Cornick in place of or in addition to the filter vessel (14) of Fewel, since the grinder pumps stations would have constituted filter stations that would have been readily monitored by the system of Fewel, thereby allowing monitoring of the proper operation of the pumps from a remote station.

Furthermore, it would have also have been obvious to allow monitoring of plural grinder pump stations by the system of Fewel in view of Cornick since this would have allowed a broader range of systems to be monitored thereby alleviating the need of on site personnel to be present at

each grinder station in order to monitor the proper operation of each station.

As discussed above, Cornick discloses a single preloader system for "separating sewage materials" and not a grinder pump station for processing sewage. While Cornick employs a grinder pump in the preloader system, Cornick does not disclose a grinder pump station for receiving, for example, wastewater from a home, and wherein the grinder pump processes the wastewater, and then, in which the entire processed sewage is pumped to a sewage discharge pipe connected to, for example, a sewage treatment facility. Cornick also fails to disclose, teach or suggest "a plurality of grinder pumps stations at a plurality of different first locations."

Appellants also respectfully disagree with the characterization of Cornick in the Office Action, dated February 27, 2004, on page 3, "that Cornick teaches monitoring of the operation of the grinder pump stations (10), and as well transmission of data concerning the operation of the stations to a CPU (90)." First, reference number (10) in Cornick is to a tank. If the Office Action meant that Cornick teaches monitoring the operation of the preloader system, then Cornick does not "monitor" the operation of a grinder pump station, and instead "controls" the operation of the grinder pump. More specifically, Cornick provides, for example, timers and sensors for detecting the levels of water and oleaginous material and the amount of solids in the first chamber (see, Cornick at column 7, line 65, column 8, line 3). The information from the sensors may be provided to a CPU which may "control" the grinder pumps and the spray pumps (see, Cornick at column 8, line 66 to column 9, line 1). While Cornick describes an alarm system, the alarm system is not in connection with the grinder pump or the first chamber containing the grinder pump, but instead includes a float sensor system disposed in the second chamber and connected to a CPU to alert the CPU of possible downstream blockages.

Appellants also respectfully disagree with the characterization that substituting "the grinder pump stations (10) of Cornick in place of or in addition to the filter vessel (14) of Fewel" supports a rejection of independent claim 1.

First, the filter vessel (14) of Fewel is a container, and again, reference number (10) in Cornick is to a tank. Thus, replacing the container of Fewel with the tank of Cornick results in essentially the system of Fewel and not appellants' claimed invention.

Second, if substituting the preloading system of Cornick in place of the filter vessel and filters of Fewel is attempted, the filters would be eliminated, and thus, the ability to remove the particulates from the gas or liquid. Attaching the grinder pump of Cornick to the inlet stream (prior to the filter vessel) of Fewel would result in a reduction in the size of the particulates that would pass through and not be trapped in the filter. In both of these situations, the primary reference system of Fewel is rendered inoperable for its intended use in removing a portion of the gas or liquid. Attaching the grinder pump of Cornick to the outlet stream (after the filter vessel) of Fewel would not be necessary since there would be no need to grind the gas or liquid stream which has just been filtered by the filters.

Thus, there is no suggestion or motivation to modify the references in the nature of the problem to be solved (i.e., appellants' monitoring for repair a plurality of grinder pump stations), the teaching of the prior art, or the knowledge of persons of ordinary skill in the art, to combine Fewel and Cornick. It is also respectfully submitted that it is only with hindsight reasoning of appellants' claimed invention that Fewel and Cornick are selected and an attempt made to combine them to support a rejection which is improper, and even if attempted as explained above, fails to result in appellants' invention.

Accordingly, the combination of Fewel and Cornick fails to disclose, teach or suggest monitoring for repair a plurality of grinder pump stations, obtaining data regarding the plurality of grinder pump stations, transmitting the data from the first

locations via a communications network to a central computing unit at a second location different from the first location, and wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and data regarding the operation of the plurality of grinder pump stations and determining, at the central computing unit, maintenance warnings for the plurality of grinder pump stations as recited in claims 1-3, 5, 6, and 22.

Claim 4

Reversal of the rejection of claim 4 as obvious over Fewel and Cornick is respectfully requested.

Dependent method claim 4 further defines appellants' invention as recited in independent method claim 1 as including the step of "allowing a homeowner use a telephone by overriding the transfer of data over the telephone line to the central computing unit."

In addition to the reasons explained above in connection with independent claim 1, and the reasons explained below in connection with independent claim 7, Fewel and Cornick, either alone or in combination, do not teach or suggest an overriding feature wherein the overriding of data is overriding of "maintenance warnings for the plurality of grinder pump stations" or "data regarding the operation of the plurality of grinder pump stations."

Claim 23

Reversal of the rejection of claim 23 as obvious over Fewel and Cornick is respectfully requested.

Dependent method claim 23 further defines appellants' invention as recited in independent method claim 1 wherein the data specifically comprises "data regarding the grinder pump."

As described above, Fewel neither discloses a grinder pump nor monitoring a grinder pump. At most, Cornick discloses a float system for monitoring downstream blockages in the second chamber and not the grinder pump itself. In addition to the reasons explained above in connection with independent claim 1, Fewel and Cornick, either alone or in combination, do not teach or suggest "maintenance warnings" based on "data regarding the grinder pump."

Claim 7

Reversal of the rejection of claim 7 as obvious over Fewel and Cornick is respectfully requested.

Another aspect of appellants' invention is directed to an alarm panel for a grinder pump station having an override feature for transmitting data regarding the grinder pump station to a central computing unit.

As an example of this aspect, appellants recite in claim 7, an alarm panel for a grinder pump station having a grinder pump which includes "a processor for monitoring data regarding the grinder pump station" and "a modem board connectable to said processor, at least one of said processor and said modem board comprising an override to allow use of a telephone by a homeowner over use of a telephone line by said modem board during transmission of the data regarding the grinder pump station from said processor to a central computing unit."

The Office Action, dated February 27, 2004, correctly notes that with reference to claims 4 and 7:

Fewel does not show:

- 1) the claimed processor;
- 2) the claimed modem board connectable to the processor;

3) the claimed modem board or processor comprising an override to allow use of a telephone by a homeowner over use of the telephone line by the modem board during transmission of data from the processor to the central computing unit.

Appellants respectfully disagree with the position taken in the Office Action, dated February 27, 2004, on page 5 that "with regards to the processor, upon incorporation of the grinder pumps of Cornick into the system of Fewel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also incorporate the CPU (90) of Cornick as well, since this constitutes a processor which controls and allows to be controlled, the operation of the grinder pumps.

As explained above in connection with independent claim 1, Fewel and Cornick are not operably or properly combinable to define appellants' claimed invention.

With regard to claim 7, the Examiner had also taken "Official Notice that in the data transmission art, use of modems which allow overriding of data transmission in order to allow telephone usage is well known."

However, *In Re Zurko* [59 U.S.P.Q.2d 1693 (Fed. Cir. 2001)] established the "substantial evidence" standard which means that deficiencies in the references cited by the Examiner cannot be remedied by general conclusions about basic knowledge and common sense in the art. With respect to core factual findings in a determination of patentability the Examiner cannot reach conclusions based on his own understanding or experience, but must instead point to concrete evidence to support his findings. Absent such concrete evidence, the Examiner has not satisfied his burden of establishing a prima facie case of obviousness.

Moreover, a limitation in claim 7 is also an override feature during transmission of "data regarding the grinder pump station." This feature is not found in Fewel, Cornick, or in the Examiner's Official Notice.

Thus, the combination of Fewel, Cornick, and the Official Notice fails to disclose, teach or suggest, the combination of "an override feature" along with the transfer of "data regarding the grinder pump station." Accordingly, it is respectfully submitted that the combination of Fewel, Cornick, and the Official Notice fails to disclose, teach or suggest an alarm panel for a grinder pump station having "at least one of said processor and said modem board comprising an override to allow use of a telephone by a homeowner over use of a telephone line by said modem board during transmission of the data regarding the grinder pump station from said processor to a central computing unit" as recited in claim 7.

Claim 24

Reversal of the rejection of claim 24 as obvious over Fewel and Cornick is respectfully requested.

Dependent claim 24 further defines appellants' invention for an alarm panel as recited in independent claim 7, wherein the data specifically comprises "data regarding the grinder pump."

As described above, Fewel neither discloses a grinder pump nor data regarding a grinder pump. At most, Cornick discloses a float system for monitoring downstream blockages in the second chamber and not the grinder pump itself. In addition to the reasons explained above in connection with independent claim 7, Fewel and Cornick, either alone or in combination with the Examiner's Official Notice, do not teach or suggest an alarm panel for a grinder pump station having an override feature during transmission of "data regarding the grinder pumps."

Claims 10, 11, and 25

Reversal of the rejection of claims 10, 11 and 25 as obvious over Fewel and Cornick is respectfully requested.

Another aspect of appellants' invention, as recited in independent claim 10, is directed to a "modular alarm panel for a grinder pump station." The modularity allows configuring the system to the customer's needs, e.g., providing a less expensive stand alone system only having the power loss high level alarm to a more expensive system, for example, including several or all of the modular components.

As stated in the Office Action, dated February 27, 2004, with reference to claims 10 and 11, the claimed subject matter that is allegedly met by Fewel includes:

- 1) the claimed processor, pressure transducer, and generator receptacle is met by the computer system (24), pressure transmitter (36), and vessel (14).

Appellants respectfully disagree that the claimed "generator receptacle" is met by the vessel (14) of Fewel. In particular, the vessel 14 of Fewel is generally a sealed container. As described in appellants' application in paragraph [0029] the "generator receptacle 110 may include a 30-amp 250 VAC receptacle to provide means for operating the grinder pump system via a portable generator." If the AC power main to the alarm panel is lost, the manual transfer switch may be rotated from the "AC mains" position to the "Generator" position. A portable generator may be plugged into receptacle 110 located on the outside of the housing 22. The receptacle may be protected from the weather via a spring loaded gasket cover.

In addition to Fewel not disclosing a generator receptacle, as noted in the Office Action, dated February 27, 2004, Fewel also does not disclose the claimed power loss high level alarm module.

As explained above, Fewel and Cornick are not operably or properly combinable as suggested in the Office Action. In addition, Cornick fails to provide the limitations lacking in Fewel which are recited appellants' claimed modular alarm panel.

Accordingly, it is respectfully submitted that the combination of Fewel and Cornick fails to disclose, teach or suggest a modular alarm panel as recited in independent claim 10, and claims 11 and 25 depending therefrom.

Claims 12 and 13

Reversal of the rejection of claims 12 and 13 as obvious over Fewel and Cornick is respectfully requested.

Dependent claim 12 further defines appellants' invention for a modular alarm panel (claim 10) as "further comprising a pressure transducer connectable to a sensing tube of the grinder pump, and wherein said pressure transducer is operable to allow operation of the grinder pump to pump fluid from a tank so that a fluid level goes below a bottom of the sensing tube." Dependent claim 13 further recites "wherein the level of the fluid is normally maintained above the bottom of the sensing tube and fluid is periodically pumped from the tank so that the fluid level goes below the bottom of the sensing tube."

In addition to the reasons explained above in connection with independent claim 10, and the reasons explained below in connection with independent claim 14, Fewel and Cornick, either alone or in combination, do not teach or suggest a modular alarm panel for a grinder pump station having a pressure transducer "operable to allow operation of the grinder pump to pump fluid from a tank so that a fluid level goes below a bottom of the sensing tube" or "wherein the level of the fluid is normally maintained above the bottom of the sensing tube and fluid is periodically pumped from the tank so that the fluid level goes below the bottom of the sensing tube" as recited in claims 12 and 13.

Claims 18-21

Reversal of the rejection of claims 18-21 as obvious over Fewel and Cornick is respectfully requested.

With reference to independent claim 18, another aspect of appellants' invention is directed to a method for transmitting information over a high voltage alternating current line.

As stated in the Office Action, dated February 27, 2004, on page 9:

Claims 18 and 19 recite subject matter that is met as discussed in claim 1 above, except for:

- 1) the claimed modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information (claim 18);
- 2) detecting the series of pulses in the high voltage line at the second location (claim 18);
- 3) determining the data at the second location based on the series of pulses (claim 18);
- 4) the modulating comprising amplitude modulation(claim 19).

Initially, independent claim 18 is not dependent on claim 1. Thus, the Office Action's discussion of claim 1 is not pertinent to the subject matter of claims 18 and 19.

Further, with regard to claim 18, the Examiner has taken "Official Notice that in the signal transmission art, use of high voltage AC current lines for transmitting and receiving data is well known in the art."

Again, *In Re Zurko* [59 U.S.P.Q.2d 1693 (Fed. Cir. 2001)] established the "substantial evidence" standard which means that deficiencies in the references cited by the Examiner cannot be remedied by general conclusions about basic knowledge and common sense in the art. With respect to core factual findings in a determination of

patentability the Examiner cannot reach conclusions based on his own understanding or experience, but must instead point to concrete evidence to support his findings. Absent such concrete evidence, the Examiner has not satisfied his burden of establishing a prima facie case of obviousness.

As Fewel and Cornick are not pertinent, solely relying on Office Notice is not proper, and thus, it is respectfully submitted that claims 18-21 and 25 would not have been rendered unpatentable over the combination of Fewel, Cornick, and the Official Notice.

Rejection under 35 U.S.C. §103(a) Over Cornick (U.S. Patent No. 6,261,446)

Claims 14-17

Reversal of the rejection of claims 14-17 as obvious over Cornick is respectfully requested.

Another aspect of appellants' invention, as recited in independent claim 14, is directed to recharging a sensing tube for use in measuring a level of a fluid in a receptacle. For example, a grinder pump may have one or more sensing tubes to sense pressure variations by measuring increases in the level of sewage collected in grinder pump station. A processor or a separate pressure transducer printed circuit board connectable to the processor may also allow the pump to remain on so that the bottom of the sensing tube is exposed to atmospheric pressure. This may be preformed, e.g., every 128 cycles, to allow recharging the air column inside the sensing tubes. By recharging the air column in the sensing tubes, air temperature or thermal factors which can affect the accuracy of the reading of the level of the fluid in the tank may be reduced or factored out.

As stated in the Office Action dated February 27, 2004, with reference to claim 14, the claimed subject matter that is allegedly met by Cornick includes:

1) the claimed permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube is met by the grinder pump tank (10) including a sensor system(50) including probes (52, 54, and 56) each of which being utilized to measure a certain level of the sewage in the tank (10) such that the CPU allows the level of the fluid to go below the bottom of any of the sensing tubes as desired (see: column 9, lines 1-18).

Furthermore, allowing the level of the fluid to go below each of the sensing tubes (52, 54, 56) would have allowed the tubes to be recharged by allowing the tube to be cleared when the level of fluid would have gone below that particular tube.

The applied reference of Cornick discloses a sensor system 50 which includes a first probe 52, second probe 54 and third probe 56, each of which comprises a length of rod suspended from the sensor system 50 down into the first chamber 12. The probes measure the electric conductivity of the matter within the proximity of the tip of each probe. See, Cornick at column 10, lines 49-60.

Thus, Cornick neither disclose a sensing tube, nor a method for recharging a sensing tube (claim 14), nor a method normally maintaining the fluid above the bottom of the sensing tube and periodically allowing the fluid level to go below the bottom of the sensing tube (claim 15). Moreover, a metal probe is not susceptible to the problems arising with use of a sensing tube.

Thus, it is respectfully submitted that Cornick would not have rendered appellants' invention obvious as recited in claim 14 and claims 15-17 depending therefrom for a "method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle" which includes "permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube."

Conclusion

For all of the above reasons, appellants allege error in rejecting claims 1-13 and 18-25 as obvious over Fewel and Cornick, and claims 14-17 as obvious over Cornick.

Accordingly, reversal of the rejections is respectfully requested.



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Appendix

1. A method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations, the method comprising:

obtaining data regarding the plurality of grinder pump stations at the first locations;

transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations; and

at least one of a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations.

2. The method of claim 1 wherein the transferring comprises accessing the data at the first locations using the central computing unit.

3. The method of claim 1 wherein the transferring comprises automatically transmitting the data from the first locations via the communications network to the central computing unit.

4. The method of claim 1 wherein the communications network comprises a telephone line and further comprising allowing a homeowner use a telephone by overriding the transfer of data over the telephone line to the central computing unit.

5. The method of claim 1 further comprising comparing an operating parameter of the plurality of grinder pump stations over time to determine the maintenance warnings.
6. The method of claim 1 further comprising comparing an operating parameter of the plurality of grinder pump stations to a predetermined criteria to determine the maintenance warnings.
7. An alarm panel for a grinder pump station having a grinder pump, said alarm panel comprising:
 - a processor for monitoring data regarding the grinder pump station; and
 - a modem board connectable to said processor, at least one of said processor and said modem board comprising an override to allow use of a telephone by a homeowner over use of a telephone line by said modem board during transmission of the data regarding the grinder pump station from said processor to a central computing unit.
8. The alarm panel of claim 7 further comprising a pressure transducer connectable to a sensing tube of the grinder pump, and wherein said pressure transducer is operable to allow operation of the grinder pump to pump fluid from a tank so that the fluid level goes below the bottom of the sensing tube.
9. The alarm panel of claim 8 wherein the level of the fluid is normally maintained above the bottom of the sensing tube and fluid is periodically pumped from the tank so that a fluid level goes below the bottom of the sensing tube.
10. A modular alarm panel for a grinder pump station having a grinder pump, the modular alarm panel comprising:
 - a processor for monitoring the grinder pump station; and
 - wherein said processor is connectable to a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle.

11. The modular alarm panel of claims 10 further comprising a modem board and wherein at least one of said processor and said modem board comprises an override to allow use of a telephone by a homeowner over use of the telephone line during transmission of data to a central computing unit.

12. The modular alarm panel of claims 10 further comprising a pressure transducer connectable to a sensing tube of the grinder pump, and wherein said pressure transducer is operable to allow operation of the grinder pump to pump fluid from a tank so that a fluid level goes below a bottom of the sensing tube.

13. The modular alarm panel of claim 12 wherein the level of the fluid is normally maintained above the bottom of the sensing tube and fluid is periodically pumped from the tank so that the fluid level goes below the bottom of the sensing tube.

14. A method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle, the method comprising:

permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube.

15. The method of claim 14 wherein the level of the fluid is normally maintained above the bottom of the sensing tube and the permitting comprises periodically allowing the fluid level to go below the bottom of the sensing tube.

16. The method of claim 14 wherein the fluid is wastewater and the receptacle is a tank.

17. The method of claim 16 wherein the permitting the level of the wastewater to go below the bottom of the sensing tube comprises operating a grinder pump to pump wastewater from the tank so that the wastewater level goes below the bottom of the sensing tube.

18. A method for transmitting information over a high voltage alternating current line, the method comprising:

receiving data at a first location;

modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information;

detecting the series of pulses in the high voltage line at a second location different from the first location; and

determining the data at a second location based on the series of pulses.

19. The method of claim 18 wherein the modulating comprises amplitude modulation.

20. The method of claim 18 wherein the receiving the data at a first location comprises receiving data regarding operation of a grinder pump, and determining the data at the second location comprises determining the data at an alarm panel.

21. The method of claim 20 further comprising transmitting said data at the second location over a communications network to a central computing unit.

22. The method of claim 1 further comprising repairing the plurality of grinder pump stations in response to the maintenance warnings.

23. The method of claim 1 wherein the data comprises data regarding the grinder pump.

24. The method of claim 7 wherein the data comprises data regarding the grinder pump.

25. The method of claim 10 wherein the data comprises data regarding the grinder pump.

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